

WHAT IS CLAIMED IS:

1. A communications system comprising:
a mobile unit operable to transmit information;
a first base transceiver station (BTS) operable to receive the information,
5 determine a first value for a metric associated with communications between the
mobile unit and the first BTS, and generate a first graded packet encoding the first
value and the information;

10 a second BTS operable to receive the information, determine a second value
for a metric associated with communications between the mobile unit and the second
BTS, and generate a second graded packet encoding the second value and the
information; and

15 a router operable to receive the first graded packet and the second graded
packet, the router further operable to select one of the graded packets for further
communication.

2. The system of Claim 1, wherein the router is further operable to:
receive an outbound packet that includes a destination indicating the mobile
unit;

20 determine a selection group associated with the mobile unit, wherein the
selection group comprises the first BTS and the second BTS; and

forward the outbound packet to the first BTS and the second BTS based on the
determination.

3. The system of Claim 1, further comprising a roam management module operable to:

monitor a quality metric associated with communications between the mobile unit and the first BTS;

5 determine that the quality metric has fallen below a threshold;

direct the router to select from graded packets associated with the mobile unit received from the first BTS and the second BTS;

direct the first BTS and the second BTS to communicate with the mobile unit; and

10 direct the mobile unit to communicate with the first BTS and the second BTS.

4. The system of Claim 1, further comprising a roam management module operable to:

15 monitor selection criteria associated with communications between the mobile unit and the first BTS and communications between the mobile unit and the second BTS;

select the second BTS based on the selection criteria;

direct the mobile unit to discontinue communications with first BTS;

direct the first BTS to discontinue communications with the mobile unit; and

20 direct the router to discontinue selecting from graded packets associated with the mobile unit received from the first BTS and the second BTS

5. The system of Claim 4, wherein the selection criteria comprise a first signal strength for communications between the mobile unit and the first BTS and a second signal strength for communications between the mobile unit and the second BTS.

25

6. The system of Claim 1, wherein the mobile unit is further operable to transmit a packet encoding the information.

30

7. The system of Claim 1, wherein the information comprises voice information received from a user of the mobile unit.

8. A network device comprising:

an interface operable to receive a first graded packet from a first base transceiver station (BTS), wherein the first graded packet encodes information received from a mobile unit and a first value generated by the first BTS, the interface further operable to receive a second graded packet from a second BTS, wherein the second graded packet encodes the information and a second value generated by the second BTS; and

a processor operable to select one of the graded packets based on the first value and the second value.

9. The network device of Claim 8, wherein:

the interface is further operable to receive selection group information, wherein the selection group information identifies the mobile unit, the first BTS and the second BTS; and

the processor is further operable to determine a first network address for communications from the mobile unit and to determine a plurality of second network addresses for communications to the mobile unit.

10. The network device of Claim 9, wherein the interface is further operable to forward the selected one of the graded packets to the first network address.

11. The network device of Claim 9, wherein the interface is further operable to receive an outbound packet that includes a destination indicating the mobile unit and to forward copies of the outbound packet to each of the second network addresses.

12. The network device of Claim 8, wherein:

the first value is at least one of a signal strength, a signal-to-noise ratio, a bit error rate, and a carrier-to-noise ratio for a wireless link between the mobile unit and the first BTS; and

5 the second value is at least one of a signal strength, a signal-to-noise ratio, a bit error rate, and a carrier-to-noise ratio for a wireless link between the mobile unit and the second BTS.

10 13. The network device of Claim 8, wherein the interface communicates packets associated with a communications session established by the mobile unit using Internet Protocol (IP) communications.

14. The network device of Claim 8, wherein the information comprises voice information received from a user of the mobile unit.

15

005260 55002500

15. A method for routing packets comprising:

receiving a first graded packet from a first station, wherein the first graded packet encodes information received from a mobile unit and a first value generated by the first station;

receiving a second graded packet from a second station, wherein the second graded packet encodes the information and a second value generated by the second station; and

selecting one of the graded packets based on the first value and the second value.

16. The method of Claim 15, further comprising:

receiving selection group information, wherein the selection group information identifies the mobile unit, the first station and the second station;

determining a first network address for communications from the mobile unit; and

determining a plurality of second network addresses for communications to the mobile unit.

17. The method of Claim 16, further comprising forwarding the selected one of the graded packets to the first network address.

18. The method of Claim 16, further comprising:

receiving an outbound packet that includes a destination indicating the mobile unit; and

forwarding copies of the outbound packet to each of the second network addresses.

the first value is at least one of a signal strength, a signal-to-noise ratio, a bit error rate, and a carrier-to-noise ratio for a wireless link between the mobile unit and the first station; and

5

10

15

22. Software for routing packets, the software embodied on a computer readable medium and operable to:

5 receive a first graded packet from a first station, wherein the first graded packet encodes information received from a mobile unit and a first value generated by the first station;

10 receive a second graded packet from a second station, wherein the second graded packet encodes the information and a second value generated by the second station; and

select one of the graded packets based on the first value and the second value.

23. The software of Claim 22, further operable to:

15 receive selection group information, wherein the selection group information identifies the mobile unit, the first station and the second station;

determine a first network address for communications from the mobile unit; and

determine a plurality of second network addresses for communications to the mobile unit.

24. The software of Claim 23, further operable to forward the selected one of the graded packets to the first network address.

25. The software of Claim 23, further operable to :

25 receive an outbound packet that includes a destination indicating the mobile unit; and

forward copies of the outbound packet to each of the second network addresses.

Sub
P1

005260 55002900

26. The software of Claim 22, wherein:

the first value is at least one of a signal strength, a signal-to-noise ratio, a bit error rate, and a carrier-to-noise ratio for a wireless link between the mobile unit and the first station; and

the second value is at least one of a signal strength, a signal-to-noise ratio, a bit error rate, and a carrier-to-noise ratio for a wireless link between the mobile unit and the second station.

27. The software of Claim 22, further operable to communicate packets associated with a communications session established by the mobile unit using Internet Protocol (IP) communications.

28. The software of Claim 22, wherein the information comprises voice information received from a user of the mobile unit.

005260 55002500

29. A network device comprising:

means for receiving a first graded packet from a first station, wherein the first graded packet encodes information received from a mobile unit and a first value generated by the first station;

means for receiving a second graded packet from a second station, wherein the second graded packet encodes the information and a second value generated by the second station; and

means for selecting one of the graded packets based on the first value and the second value.

30. The network device of Claim 29, further comprising:

means for receiving selection group information, wherein the selection group information identifies the mobile unit, the first station and the second station;

means for determining a first network address for communications from the mobile unit; and

means for determining a plurality of second network addresses for communications to the mobile unit.

31. The network device of Claim 30, further comprising means for forwarding the selected one of the graded packets to the first network address.

32. The network device of Claim 30, further comprising:

means for receiving an outbound packet that includes a destination indicating the mobile unit; and

means for forwarding copies of the outbound packet to each of the second network addresses.

Sub
A1

005200-53002900

33. The network device of Claim 29, wherein:

the first value is at least one of a signal strength, a signal-to-noise ratio, a bit error rate, and a carrier-to-noise ratio for a wireless link between the mobile unit and the first station; and

5 the second value is at least one of a signal strength, a signal-to-noise ratio, a bit error rate, and a carrier-to-noise ratio for a wireless link between the mobile unit and the second station.

34. The network device of Claim 29, further comprising means for
10 communicating packets associated with a communications session established by the mobile unit using Internet Protocol (IP) communications.

35. The network device of Claim 29, wherein the information comprises voice information received from a user of the mobile unit.

00520:55002900

36. A packet generated by a base transceiver station (BTS) in response to receiving voice information from a mobile unit via a wireless link, the packet comprising:

a first identifier for the mobile unit;
content including the voice information; and
a metric indicating quality of the wireless link.

37. The packet of Claim 36, further comprising a packet identifier that allows a router to select between the packet and a second packet having an identical packet identifier, the second packet generated by a second base transceiver station (BTS) in response to receiving the voice information from the mobile unit via a second wireless link.

38. The packet of Claim 36, wherein the metric is at least one of a signal strength, a signal-to-noise ratio, a bit error rate, and a carrier-to-noise ratio for the wireless link.